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REVIEW

Ethical Issues in Tuberculosis Control

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Abstract

Tuberculosis (TB) remains a major global public health problem as also defined by the World Health Organization (WHO). On the other hand, the incidence of TB worldwide decreases at a lower rate than the intended targets, and it is seen that the targets set for 2015 will not be achieved at the global level. According to the WHO, failure to achieve the targets in TB control results from "resource constraints", "conflict and instability" and "generalized human immunodeficiency virus epidemics". This article is aimed to maintain an ethical debate in TB control and to investigate the WHO's TB control policy and question the reasons for failure of this policy. Within the scope of this article; the TB of TB control was problematized at macro political level within the context of philosophy, while the approach of health care staff to TB patients was analysed at micro level within the context of professional ethics.

KEYWORDS: Tuberculosis, directly observed treatment, capitalism, poverty, inequality, discrimination

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INTRODUCTION

Tuberculosis (TB), as defined by the World Health Organization (WHO), remains a major global public health problem. Indeed, according to 2012 data, 8.6 million people in the world developed the disease and 1.3 million of these people died [1]. On the other hand, the worldwide incidence of TB is decreasing slower than the targeted rate. Within this context, prevalence of the disease has decreased by only 37% as of 2012 as compared to 1990s. Considering that the goal set for 2015 is 50%, it is estimated that the specified target could not be achieved in 2015 with a decrease by 37%. Likewise, the goals set for mortality and prevalence could not be achieved in African and European regions either [1].

On the other hand, millennium epoch stands for a period in which "end of era" has been announced and the idea of liberal democracy has been inarguably accepted all over the world. No doubt, characteristic features of this epoch -also with the influence of elimination of real socialist experience- are the capitalism's becoming widespread in the form of neoliberalism as a single doctrine in the world and experiencing technological revolutions, to which hopes have been pinned upon. However, it seems that neoliberalism, which is claimed to bring welfare, wealth and democracy to everyone, has not enabled to reach to the goals set for the control of TB disease. Likewise, technological developments also failed to provide significant progression in the prevention and/or treatment of TB disease.

According to the World Health Organization, the reasons for the failure to achieve the goals set for TB control are "source limitations", "conflict-instability" and "widespread human immunodeficiency virus (HIV) outbreaks". This paper is aimed to maintain an ethical debate in TB control, and question TB control policy, which has been shaped under the leadership of WHO, and the reasons for failure on the basis of Turkey example.

Ethics

Ethics is defined by the Turkish Language Association as "moral, related to moral" and "all behaviours that are necessary for parties to follow and avoid among various occupational branches" [2]. Ethics, by the professionals of the field, stands for separate meanings within the contexts of philosophy, life and occupation. For example, ethics is defined as "the subject of what is good and which ones are good within the context of behaviours" as a field of philosophy; and as "determination of rules that are necessary to be followed by people that show activity in a specified field and examination of intended behaviours during practices specific for that field" for the field of occupational ethics [3]. In this paper, the concept of TB control has been problematized at macro political level within the context of philosophy and at micro level within the context of occupational ethics.

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Ethical Targets in TB Control

Under the vision of "a TB-free world", the World Health Organization has defined STOP TB Strategy. The aim of this strategy is to "strikingly decrease global TB burden until 2015 in line with the Millennium Development Goals and the Stop TB Partnership targets" [4,5]. The goals defined within the frame of strategy are;

- To detect at least 70% of TB cases with positive sputum smear until 2015, and to provide cure in at least 85% of these,
- To decrease the prevalence and mortality rates of TB by 50% until 2015 as compared to 1990,
- To eliminate TB, which is a public health problem (<1 case in a million population) until 2050 [4,5].

No doubt, each of these specified targets are individually important. However, not to be forgotten at this point is the necessity of interpreting and considering these specified targets together with ethical goals. Because, in fact, the general aims of TB control programs are;

- To provide universal access to high-quality diagnosis and patient-centred treatment,
- To decrease TB-induced pain and socioeconomic burden,
- To protect poor and fragile populations caused by TB, TB/HIV, and multidrug-resistant TB,
- To encourage the development of new tools and enable their timely and effective usage,
- To prevent disease and to improve human rights by providing care and control [6].

Therefore, the real success or failure of TB control program should not be measured only by whether or not the goals set for 2005, 2015 or 2050 are achieved. Contrarily, success of the control program should be evaluated in terms of achieving the general aims determined by the program itself. In the next section of this paper, global and national TB program will be discussed under the light of these specified aims.

Is HIV the Main Reason for The Failure of Control Program?

Although the WHO has defined "widespread HIV outbreaks" as the main barrier for TB control program in achieving expected goals, it seems not possible to define HIV issue as the main reason for not achieving targeted success. No doubt, such a determination does not ignore the importance of HIV prevention in TB control. Contrarily, considering that at least one third of 35.3 million people living with HIV in the world have been infected with TB and that HIV enhances the risk of development of TB by 29.6 times, it can be accepted that HIV poses an important problem in terms of TB control [7]. Moreover, as a reflection of this problem, 1.1 million people developed HIV-positive new TB, of which 75% were in sub-Saharan Africa, in 2012, and in the same year 320,000 subjects died due to HIV-associated TB [7]. However, all these facts are unable to completely explain the failure of TB control program in achieving targeted goals. Because, first of all, HIV outbreak is not a "condition" on its own independent from socioeconomic effects, which bring it into existence. On the other hand, because of relatively low global prevalence of HIV, unfavourable effects of this disease on the development of TB is very low as compared to alcohol consumption, smoking, air pollution in internal environments, and malnutrition [8].

World Health Organization and Disease-Oriented Point Programs

Until 1980s, the World Health Organization promoted the thesis that "both governments and public sectors are responsible for economic and social precautions that would be taken to eliminate social inequality caused by uncontrolled market forces" [9]. However, neoliberal ideological hegemony, which made its effect felt at global level in 1980s, has also influenced the WHO. The WHO 2000 Report (Health Systems: Improving Performance) is a document proving that aforementioned neoliberal wind has considerably taken hold of the WHO. Navarro has made an observation on the document in question that "This report enabled neoliberal argument to settle as official WHO policy [9,10].

In fact, WHO, which was established in 1948, has been successful in taking a holistic approach to health particularly in the presidential period of Andrija Štampar. Moreover, Štampar, in his speech in the meeting that he was elected as president, used the statements that "Diseases are not caused only by physical and biological factors. Economic and social factors, which are to be discussed not only for technical aspects but also for sociological aspect, play an increasingly important role on sanitation" [11]. The point of view of Štampar has already been reflected on the WHO Constitutional Law, and the organization defined health as a state of complete physical, mental and social well-being.

Although health was approached holistically in the WHO Constitutional Law, WHO took a disease-oriented approach to health in even within the first 10-year period of foundation and carried out the policy of struggling against contagious diseases instead of improving health services [11]. More importantly, struggle against contagious diseases with TB being the leading has been shaped within the frame of vertical organization model. Because this model is against the health concept accepted by the WHO. On the other hand, this vertical organization policy that is oriented to control specific diseases led to the failure of implementation of policy in sociocultural and socioeconomic basis, which enables the development of diseases and/or facilitates their spread. In addition, disease-oriented point programs, which were shaped under the leadership of the WHO, prevented shifting to comprehensive national health policies [11-14].

Despite all these, use of basic cheap drugs instead of branded drugs and the policy that WHO followed on making the use of breast milk widespread instead of formulas turned the organization into a target because of reduced earnings of medical companies and formula manufacturers. Moreover, in 1981, the United States of America stood against the WHO rules on breast milk on the grounds that "it interferes with global trading" and, as a country that provides 20% of the WHO's budget, suspended its contributions on organization's budget in 1985 [12,14]. No doubt, this situation has put the WHO financially under pressure with zero improve-

ment in the organization's budget. In time, financial power of the organization regressed to levels incomparable with other global organizations and whole budget of the WHO has become lower than the amount of credit provided by the World Bank only for malaria program [15]. Of course these developments have muted the WHO and have led the World Bank to evolve into a more powerful global organization in health field. On the other hand, financial problems of the WHO have made the organization dependent to extra-budget earnings and caused the proportion of voluntary and extra-budget sources exceed 80% in the WHO's finance [13]. However, this development has driven the WHO apart from the impact of poor member countries and put the organization in the impact area of the World Bank, granter governments of rich countries, establishments such as Bill and Melinda Gates Foundation, and pharmaceutical companies [13]. Moreover, along with extra-budget grants usually made for once in a year, the WHO began to form technology-oriented and small-scaled point programs for specific diseases that are currently important and in the agenda instead of long-term basic health services, and began to hunt solution for complex epidemiological problems, which have been caused by socioeconomic-sociocultural factors, through "magic technological formulas" [12,15].

The WHO's being economically under pressure and the effect of newly shaped financial sources in time have had reflection also in the organization's policies. For example, while the WHO highlighted the relation between health and poverty expressing that poverty is the "greatest killer in the world" in 1995, in 2000, it has associated the cause of health disorders with the level of health expenditures instead of poverty -contrary to five years ago- and asserted that health expenditures must be increased for reaching to good health status. Likewise, since 2000, the organization has begun to underline the market-style solutions and the importance of the role of private sector [12,13]. Particularly in 1998, Gro Brundtland, MD, who has been elected as the General Directorate of WHO, highlighted the importance of pursuing a "partnership" with other global organizations and drug industry. Moreover, Brundtland defined the World Trading Organization as an "effective and fair forum in which commercial rules are bargained and disagreements have come to a solution" [12].

The World Health Organization's having approximately 70 partnerships as of 2001, including most of the pharmaceutical companies and research projects, clearly describes the changing position of the organization since Alma Ata Declaration. Here, because of this change in the historical process and as the consequence of partnership with the World Bank, the WHO, today, defends on one hand the market reforms and on the other hand suggests utilization of expensive and patented drugs and vaccines instead of cheap and off-brand drugs and vaccines, just the opposite in the past [12-14].

No doubt, disadvantages defined within the body of WHO have determined the approach of the organization to TB problem. Within this context, the WHO, because of aforementioned reasons, mostly medicalized TB issue by drifting it away from its sociocultural and socioeconomic context, usually ignored general health services because of disease-specific vertical organization model, mostly emphasized the importance of public-private sector collaboration as a struggling strategy against disease, establishment of global fund for TB was shaped with the participation of either medical or non-medical companies and foundations at global level as the consequence of the emphasis, and as a result of these impacts, it began to claim that TB problem could be solved by new and expensive drugs, vaccines, and new technological developments that would enable the rapid diagnosis of resistant cases.

However, despite disease-oriented point program suggested by the WHO for TB, success rate of treatment of multidrug-resistant TB, as of today, is 48%, the rate of treatment discontinuation is 28%, death is 15%, and failure is 10% [16,17]. That is to say, success rate achieved in the treatment of multidrug-resistant TB is close to the "success" that would be achieved by not implementing a TB-oriented treatment. More importantly, disease-oriented point program that has been put into use under the leadership of WHO will not be able to achieve the goals set for 2015 and 2050. No doubt, correction of this bad situation is possible not by putting disease-oriented point programs and technical components into use as has been until today, but only by raising the health system to the adequate level as a whole, by taking social determinants of the disease into account, by meeting the needs of poor and fragile groups [16].

On the other hand, there are many problems likely to weaken struggle against TB, which is being carried out at the global level. The first of these problems is demonstration of the fact that TB burden calculations based on data from the WHO might be indefinite, sometimes even deceptive [16]. In addition, cases diagnosed with and treated for TB are not being reported to the national TB programs. Sputum examination is neglected in private health care centres and even cases with the diagnosis of TB are not reported. Nevertheless, external quality assessment programs on the improvement of the quality of microscopic examination, which is the basic diagnostic method in the phase of case-identification, are ignored particularly in low- and moderate-income countries. Market-profit problems are encountered with expensive drugs used in the treatment of multidrug-resistant TB patients. Besides all these, financial support provided by the organizations such as Global Fund for Struggle against AIDS, TB and Malaria is inconsistent, and the funds that come from these organizations are sometimes cancelled and only 54% of the cases infected with HIV could reach to appropriate antiretroviral therapy in the countries with low-moderate income [16]. Finally, it is known that the leading problems encountered by TB patients at the stage of diagnosis include absence of health insurance, inability in accessing to health care services, and low-quality activity of laboratory network [17]. Therefore, it is not possible for a strategy not comprising the solution for all these problems to be successful on TB.

It should never be forgotten that TB is a disease of poverty associated with social and economic factors and that is extremely influenced by political and economic impairments as was observed in the 1991 Soviet Union experience [17]. Within this context, it should be recognized that decrease in the incidence of TB in historical process is related -beyond biomedical interventions- to improved living conditions, nutrition, and healthy sheltering as the result of economic development [17]. Likewise, it should be taken into account that the rapid decrease in the incidence observed in Western Europe in the period after the World War II was achieved by providing social insurance for all citizens together with chemotherapy, widespread social protection implementations, opportunity of the majority of population to access qualitative health care services, and presence of stable economic growth [17]. Within this context, it must be remembered that doubling of gross national product is associated with 38.5% decrease in TB incidence and it must be agreed that any strategy on TB that ignores poverty and the other social components and reduces the problem to the biomedical perspective is impossible to be successful [18].

Finally, although the WHO is an organization notably under the influence of neoliberal ideology particularly in the early 2000s, it has again become a promising organization for the future with the document "Equity, Social Determinants and Public Health Programs" published in 2010 [19]. Indeed, this book has brought forward the importance of social determinants, equity and public health programs not only for TB but also for overall heath into the world's agenda after a long while. Social determinants that generate the problem were defined in the TB section of the book; it was stated that the problem could not be solved by national TB programs alone and, within this context, the importance of integrated public health programs was emphasized; it was highlighted that industrialization leads not only to rapid economic growth but also unfair distribution of income and restricted social reforms; it was stated that directly observed treatment has not provided the expected favourable changes for TB; it was underlined that directly observed treatment is not the main determinant of TB incidence in anywhere in the world, but contrarily socioeconomic development and access to qualitative health care services are the main determinants; it was determined that socioeconomic data are not collected and monitored in TB programs; advices such as nutritional support, quitting smoking, struggling against poverty, improving living conditions and providing social protection for poor people were offered, and suggestions for social determinants that generate the problem were made, and it was recorded that strengthening health system as a whole and an egalitarian social development as well as economic development is necessary for the solution of the problem [20]. No doubt, although this WHO document is valuable since it points out the importance of equity, social determinants that determine the health and public health problems, it is deficient and problematic because production and distribution relationships are not problematized and this point of view has not been reflected in the contents of global TB reports published in the subsequent years by the WHO.

MAIN SUBJECTS IN TB ISSUE

Poverty and Public Gender

Analyses demonstrate that three basic global reasons for the development of TB -in the order of efficacy- are malnutrition, indoor air pollution and smoking [8]. Within this context, it has been quite clearly demonstrated that malnutrition and smoking is the consequence of capitalist system and, more important, both factors are in close association with poverty. However, the relation of indoor air pollution with social production and distribution processes has been less discussed as compared to the other two factors. Therefore, it is necessary to mention about biomass exposure within a limited frame in the context of TB:

It is known that biofuels (herbal and animal) that are used for heating are defined as biomass. Cow dung cake, wood, wood charcoal, charcoal, dried plants, firewood, and hay are the examples that can be defined under this topic. Cow dung cake, which is among these types of fuels, has a special place in terms of widespread utilization both in the world and in Turkey. Data indicate that worldwide 400 million people utilize cow dung cake [21]. It is known that 15 million tons of cow dung cakes are produced in Turkey [21]. However, although biomass is being utilized by approximately half of the world population because it is cheap and utilization rate of biomass has reached to approximately 80% in China, India and Sub-Saharan countries where TB is prevalent, biomass utilization has not been problematized within the frame of TB control programs as much as it deserves [22,23].

One of the main reasons that the World Health Organization does not consider biomass within the axis of TB issue is the fact that the organization has discussed TB issue within biomedical paradigm by predominantly secluding the problem from sociocultural and socioeconomic bases. Because, the use of biomass is a main indicator of poverty and within this context biomass use is inversely correlated with gross national product per capita [24]. However, since TB issue has been discussed on the basis of *Mycobacterium TB* almost always independent from poverty and other sociocultural factors in the reports of the World Health Organization, attention has not been drawn to the biomass issue, which is an indicator of poverty until today [1]. Moreover, considering that biomass predominantly influences children and women, it can be understood more clearly why a basic public health problem that influences -even from birth- women and children, which are disadvantageous in terms of social gender in a male-dominant society, has not been deemed important enough.

On the other hand, it is known that 70% of 1.5 billion people that are living in absolute poverty threshold are female [25]. Therefore, subjects such as biomass that interest poor women, who are disadvantageous in terms of both poverty and social gender, are needed to be explored in detail. Besides, TB control programs must be made gender-sensitive by blending them with social policies for poor people and females, who have disadvantages in TB in almost all phases [25].

Although biomass has not been deemed so important by global and national actors within the context of TB as a stra-

tegic public health issue, there are some studies investigating the effects of biomass on TB. Studies indicate that biomass exposure enhances the risk of developing TB three times [26]. Likewise, Nepal study determined positive relation between using kerosene lamp and risk of TB infection [27]. In addition, Törün et al. [28] reported that they determined active TB in 27 patients with bronchial anthracostenosis having biomass exposure at an incidence much higher (26%) than encountered in Turkish population.

Beyond the fact that biomass exposure is an indicator of socioeconomic factors, it is thought that *Mycobacterium TB* influences the resistance of respiratory system against infection or the resistance in infected individuals against development of active TB. On the other hand, impairment of mucociliary clearance, and adherence and phagocytosis activities of macrophages caused by biomass exposure and unfavourable effects on immunoglobulin G, peripheral T lymphocytes and interleukin 2 enhance the risk of TB infection [29,30]. Nevertheless, considering the close relation between low socioeconomic level and biomass use, the fact that biomass use is nested with socioeconomic factors such as malnutrition and poor sanitation that unfavourably effect immune system, living in crowded house/environment that enhances risk of contamination, and limitation in access to health care services when necessary should not be ignored [31].

Health System and Reform Programs in Health

It is known that enabling universal access to high-quality diagnosis and patient-oriented treatment are basic goals for TB control. Therefore, delayed treatment of TB patients stands out an ethical issue. Literature data indicate that delay in the treatment of TB patients is experienced in the presence of poverty, female gender, geographic and/or sociocultural barriers in accessing to health care services, and in case the health care unit that the patient admitted is private or gives inadequate service [32,33]. On the other hand, adherence to treatment, as well as delay in treatment, is apparently vital for control programs. A study conducted in Turkey reveals that adherence to treatment -as is in delay in treatment- arises rather from the system itself than the individual characteristics of patients. Indeed, it has been demonstrated that adherence to treatment is poor in patients that are living alone, not hospitalized, primary school graduate, and have no health insurance [34]. Within this context, it should be agreed that eliminating delays in treatment and enhancing adherence to treatment are possible only by establishing a system that can respond to the problems encountered in these fields. The most important subject that can minimize the problems encountered in delay and adherence as much as possible is shaping nationwide health care services as cost-free, qualitative, equal, risk-priority, and discrimination-free but gender-sensitive. However, although "fulfilling basic public health responsibilities" and qualitative and patient-oriented health service have been referred to in the International TB Care Standards, cost-free and gender-sensitive health care services have not been included [5,35].

The document "Guidelines for Informing TB Patients and their Relatives and the Rights and Responsibilities of TB Patients", which was published in 2011 by the Ministry of Health of the Republic of Turkey, is of special ethical importance. Because, in this document, the Ministry of health mentioned about the care and treatment of TB patients as "TB patients have the right to access to care for TB from the diagnosis to the end of treatment as equal and cost-free without any discrimination in terms of race, gender, age, language, legal status, religious beliefs, sexual orientation, cultural characteristics, or having or not having another disease" [36]. Another ethical importance of this document is the recording of prohibition of discrimination in terms of "sexual orientation".

Nevertheless, right to access cost-free health care services entitled for TB patients fails to eliminate "contribution" and premium debt issues, which were brought into existence by health reform program being implemented in Turkey. Although, TB control dispensaries in Turkey -as of today- provide cost-free health care services, they are usually not the institutions that the patients admitted first. Indeed, Bozkurt et al. determined that 15% of TB patients have been diagnosed at TB control dispensaries, whereas 55% have been diagnosed at tertiary health care institutions [37]. Research data indicate that stepwise health care system could have not been established with the family medicine system put into practice in Turkey. Therefore, TB patients that are admitted to health care institutions other than TB control dispensaries -i.e. 85% of TB patients- are exposed to daily increasing "contribution" payment in the institutions they are admitted. However, it is worldwide well-known that consumer fees defined in Turkey as "contribution" form income-based barrier in accessing health system and leads to treatment delays. On the other hand, General Health Insurance (GHI) implementation that has been put into practice in Turkey is another barrier for patients in accessing to health system. Because, according to GHI implementation, health care services are provided for only patients that have no premium debt. Considering that approximately 5 million people in Turkey would have the opportunity of health insurance by paying premiums on their own, it can be realized that GHI implementation poses a threat in terms of accessing to health services for a substantial proportion of the population [38]. Moreover, with the effect of Health Transformation Program, the amount of out-of-pocket health expenditure in Turkey is gradually increasing each passing year. Actually, the out-of-pocket health expenditure, which was about 3.4 billion dollars in 1999, has reached to 8.5 billion dollars in 2007 and to 10 billion dollars in 2008. The increase rate in out-of-pocket health expenditure between 1999 and 2008 is 147% [39]. Likewise, the percentage of health expense in family expenditure was 3.1% in 2003, whereas this percentage increased to 4.4% in 2006 and to 5.4% in 2009. Within the period of 2005 to 2009, payment to private health institutions for health expense increased by 20% [39]. All these developments indicate that income-based inequality in accessing to health services has deepened in the last decade. Considering that Turkey is worldwide in a bad situation in terms of unfair distribution of income and that TB threatens especially low socioeconomic groups, it can be much better understood that restrictions that patients encounter in accessing to health system due to low income is quite important for TB control.

PROBLEMS IN OCCUPATIONAL ETHICS

Discrimination

The approach of health care workers to TB patients within the context of TB control programs embodies critical issues in terms of occupational ethics. The Ministry of Health expresses that TB patients "have the right to be treated by and obtain service from health care workers and authorities without prejudice and discrimination and in a non-pejorative manner whatever their social status is" [36]. However, daily medical practice that is shaped within the frame of predominant medical paradigm embodies many ethical issues particularly with the effect of TB's being a contagious disease. At this phase, signs and warnings that have to be put on the doors of the rooms of TB patients to prevent contamination leads to labelling of patients particularly those being monitored at chest diseases services. In fact, signs and warnings that are put to reduce the risk of contamination are not necessary to be seen by third parties that have no risk of contact. On the other hand, it is known that risk of contamination that a TB patient carries is rapidly decreased with treatment. However, unfortunately, many TB patients are exposed to discriminative implementations justifying contamination due particularly to the prejudice of health care workers.

At this point, it is known that TB patients are exposed to negative discrimination in the intensive care practice particularly with regard to the treatment with invasive mechanical ventilation. However, when medical and social sciences literatures are reviewed, even a single paper discussing this discriminative policy is not encountered. This indicates that the fact that TB patients could not reach to intensive care services and/or have assisted ventilation in case of respiratory distress is considered a natural and ordinary issue by scientific community and scientists.

Another subject that has to be discussed under the topic of discrimination is the fact that bacteriological evaluation, which is the basic diagnostic method, is performed without a qualitative laboratory support in many health units and examination for acid-fast bacilli does not yield a result within 24 hours. No doubt, these conditions in question lead to delay in the treatment of TB.

The extent and severity of discrimination against TB patients are many times so high that would lead to anxiety and depression in the patients. Indeed, TB patients are bereaved of their rights because of stigmata and prejudice. TB's being defined as a "disease that contaminates a subject" and therefore "isolation of the subject from society" are the two main factors that bring stigmatization [40]. A study from Turkey indicates that patients' relations with household including parents and with office personnel change after they are diagnosed with TB [40]. However, this change in relationships leads the patients to feel the anxiety of being unable to work, going into financial trouble, separation from family and being alone in life [40]. The basic consequence of this anxiety is the patients' not sharing their problems with another people and thus the problems' becoming more serious. Within this context, determination of a moderately positive correlation between loneliness scores and depression scores of TB patients indicates that social isolation of the patients enhances the problem [41].

It must be remembered that anxiety and depression in TB patients are not "subjective" issues. Researches on depression demonstrate that depression, even in previously healthy subjects, is nested with numerous variables ranging from personality characters of the individual to social support and from level of socialization in society to the point of developing skills to cope with problems as an individual [42]. It must be recognized that anxiety or depression that develops as the consequence of TB or another disease is a reflection of the effects of disease rather than personality characteristics of the individual. Moreover, the fact that prevalence of depression and anxiety is higher in multidrug-resistant TB patients in comparison to the other TB patients confirms this prediction [43]. However, it was demonstrated that quality of life is low and Beck Depression Inventory scores are high in non-multidrug-resistant TB patients [44]. Studies demonstrate that perceived health status is associated also with gender and perception is poorer in female TB patients as a reflection of gender mainstreaming [44]. A study from Turkey determined a significant negative correlation between low quality of life scores and low education level, absence of social insurance and inadequate sheltering conditions [45]. On the other hand, it was demonstrated that increase in monthly income improves perceived health in TB patients [44]. All these data indicate that, national TB control program in Turkey must be turned into a governmental policy that gives social rights to the patients from "donation" given to the patients by nongovernmental organizations, as currently is.

Right to Obtain Information

The right to be enlightened is the important issue in terms of occupational ethics within the frame of right of TB patients to obtain information. This right comprises both the disease and treatment of the individual [36]. As is known, the basis of the right to be enlightened is based on personal autonomy principle. The necessary ethical approach is to know the cultural characteristics of the population the individual lives in and recognizing how each patient defines his/her own autonomy [46]. Therefore, patients should not be enlightened in the way making them to sign some documents within the scope of a "package" implementation but specific to each patient.

In order to properly practice the right to be enlightened, health status of each patient and the diagnosis, probable therapeutic options and risks, type of recommended therapeutic option, success rate and duration of treatment, the risks of therapeutic method for patient's health, how to use medications and potential side effects, and problems that are likely to be encountered in case the patient refused the treatment must be expressed [47]. However, researches indicate that TB patients have serious problems concerning the right to be enlightened. For example, it was determined that only 38.6% of the patients that were staying at TB clinic of a chest diseases hospital and receiving anti-TB therapy had information on TB disease. Considering that TB control programs deem adherence to treatment important, the facts that only 38.6% of the patients receiving anti-TB therapy know TB as a contagious disease and that only 59% of the patients have

learned that treatment duration is 6 months indicate that one of the basic problems of TB control program is being experienced in this field. Interestingly, patients that participated in this research defined the source of information as television although they were staying at a chest diseases hospital [48].

Association of the cause of violation of the TB patients' right to be enlightened with the workload of healthcare workers and time issue might be oversimplification. Because, enlightenment of the patients is not adequate, even among patients treated as inpatient at chest diseases hospitals, as is seen research. As the World Health Organization has mentioned many times, treatment of disease being not "patient-centred" is the main problem here. However, it is known that health professionals display resistance against changing their attitudes. On the other hand, TB' always being in the agenda as a contagious disease within the frame of predominant medical paradigm as well poses a barrier for health care workers in changing their attitudes. In fact, the necessity of TB patients to decide their treatment on their own is not deemed convenient by either medical students or family physicians (the rate of those that consider this issue as convenient is 18% and 24%, respectively, $p>0.05$) [49]. Likewise, as a part of "patient-centred" health service supply, patients' right to directly selecting their supervisor for observed treatment is not found favourable by either medical students or family physicians (the rate of those found this as favourable is 34% and 50%, respectively, $p>0.05$) [49]. Nevertheless, especially medical students think that health care workers might refuse supplying service for TB patients (the rate was 48% for medical students and 33% for family physicians, $p<0.001$) [49]. In fact, health care workers' refuse to supply service to a TB patient is not a convenient situation in terms of occupational ethics. Because, in accordance with occupational ethical rules, it is defined that in the event of a contagious disease such as TB, a physician may refer the patient to another health care unit only if routine preventive measures are not available in working environment and if the risk of contamination will substantially increase with medical implementation [50]. It is known that contagiousness of the disease rapidly decreases as anti-TB therapy is initiated and completely disappears in 2-3 weeks. Therefore, a health care worker's refusing to supply treatment and referring the patient to another health care unit is not an acceptable implementation in terms of occupational ethics even in the event that "routine preventive measures are lacking". Because, treatment that would be performed by health care worker will not significantly enhance, but reduce, the risk of contamination contrary to the provision mentioned in occupational ethical rules.

Finally, non-adherence to treatment, which is also an important problem for disease control, is perceived as an "individual" defect of the patients. However, it is known that factors that influence adherence in TB therapy are far beyond being personal. In fact, a study conducted in the patients that were non-adherent to treatment determined the reasons for discontinuing treatment as follows: familial-social problems, financial impossibilities, inadequate information on disease and treatment, busy schedule and depression, irregular life style and alcoholism [51]. Actually, many studies in the world demonstrated that adherence to treatment is associated with life style, socio-demographic status, psychosocial picture, health care workers, misinformation on disease, indefinite future, and stigmatization, which is the most important issue [52,53]. Therefore, non-adherence to treatment should not be perceived as the problem of the patient but contrarily the common consequence of environmental, social, structural and institutional factors with right to information being the leading [53].

Right of Confidentiality and Directly Observed Treatment Strategy

As was defined by the Ministry of Health, each TB patient "has the right to expect respect for the privacy of his/her individual life, as well as honour, religious beliefs and culture". Likewise, each TB patient "has the right to request privacy protection of the information about his/her medical condition and disclosing them to other authorities only with his/her consent" [36]. Actually, in accordance with the rules of International Medical Ethics of the World Medical Association, patient information could be disclosed if only the patient gives consent or there is a close and real danger that could harm the patient or another one and this danger would be eliminated only with the violation of the principles of occupational confidentiality. Moreover, giving information by violating confidentiality principle even in the presence of such a "danger" is conditional upon the damage, which would appear along with not disclosing patient information; the damage should be close, serious and irreversible, inevitable unless information is disclosed, and bigger than the harm that would appear along with disclosure of information. However, the right to confidentiality of TB patients is easily violated during daily medical practices particularly by justifying contamination and public health. More importantly, many patients are exposed to discrimination in the society, lose their jobs, and left in enclaves of poverty because of these violations. Within this context, Öztürk et al. reported that 11.3% of TB patients became unemployed due to disease and they expressed that socioeconomic dimension of the problem should also be discussed in terms of unemployment [54]. Interestingly, these patients that are labelled and excluded from society/working life due to disease are being treated in Turkey and all over the world in line with directly observed treatment method recommended by the World Health Organization.

There is no data that would represent Turkey about favourable/unfavourable effects of Health Transformation Program put into practice in Turkey on the Directly Observed Treatment Strategy. However, family medicine system implemented in the primary care has led to critical problems in terms of TB control program both because qualified health care workers were drifted apart from TB control dispensaries and observation could not be maintained as qualitative as intended within family medicine system [55]. On the other hand, the rates of directly observed treatment, which is being carried out completely by health care workers being very low as 3.1% in a recent field research indicates that the problem concerning this subject is much bigger than estimated [56].

There are other ethical issues related to Directly Observed Treatment Strategy. The first of these issues is the systems' being based on "observation" although the health care service has been defined as "patient-centred", and thereby the concept of "observation" is banalized and made natural. On the other hand, professional training of physicians appears to support this "observation/supervision" implementation. For example, almost all medical students think that TB patients could be treated by force, whereas great majority think that the patients should be hospitalized in a health care institution until complete healing (the rates are 97% and 73%, respectively) [49]. Not significantly different from the medical students, these rates are 88% and 63%, respectively for family physicians [49]. In addition to this, the Ministry of Health has a similar point of view. Actually, public health authority adjudicated that the patients are "responsible for any adherence" to all examinations and follow-up over the course of their treatment [36]. However, patients' showing "adherence to treatment in any way" is neither an expected nor intended situation in an ethical health system. More importantly, public health authority states -with the influence of predominant medical paradigm- that all kinds of actions will be taken due course of Public Health Law articles No. 119/120 unless the patients fulfil the specified responsibilities and "all manner of adherence". The articles reminded by the Ministry of Health are as follows [5]:

- Article No. 119-The Ministry of Health and Social Welfare is authorized to isolate or treat the patients, who are proven to have TB disease and suspected that they would infect the persons around, at a hospital or another institution, or ban the patients, who are proven to infect small children with TB bacillus because of their profession and occupation, from practicing their profession or occupation.
- Article No. 120-The Ministry of Health and Social Welfare is authorized to implement precautions for the protection of individuals, who are scientifically considered to be in need, from TB.

At this phase, as was incisively mentioned by Michel Foucault, it would be beneficial to remind that an object of knowledge is not plain and has always been "surrounded by dark side of conscious" even it is approximated to scientific internal consistency and restrained within borders [57]. Well, what are the dark sides of conscious that surround TB control?

CONFRONTATION FOR REACHING TO ANOTHER TYPE OF STRATEGY

Dark Corners of Conscious in TB

As is known, the risk of contamination with TB is not the same for every individual. In fact, as the consequence of this inequality, worldwide the majority of TB cases as of 2012 were from South-Eastern Asia (29%), Africa (27%) and Western Pacific (19%) regions. The country-wide highest incidence was in the South Africa and Swaziland in Africa, which has been transformed to be a "lost continent" in terms of economic and social aspects [1].

It is known that TB involves young adults at their "highest reproductive" period all over the world. In fact, this is the weak part of discussion on TB. Within this context, the World Health Organization's stating that TB involves young adults at their reproductive period and that more sources, therefore, should be generated for TB control programs is not a coincidence. Actually, Alison Katz attracts attention to this situation and expresses that neoliberal mentality, which ignores public health principles, denies the real reasons of poverty and diseases, and enforces a rough economic perspective to the health field, tries to maintain this unfair order it created with donations and international charities [58]. No doubt, the same point of view has been experienced in TB control, and "Stop TB Partnership" has been established with the participation of international and technical institutions, governmental programs, research and finance organizations, foundations, nongovernmental organizations, and private sector under the leadership of the World Health Organization [59]. However, despite "philanthropic" approach maintained by the World Health Organization on TB at global level, the source needed for disease control could not be totally provided. Calculations indicate that the source necessary for countries with low and moderate income to achieve success in TB control is annually 7-8 billion dollars [1]. However, the sources that are lost or transferred each year include 700 billion dollars due to unfair trading, 382 billion dollars due to borrowing, and 160 billion dollars due to capital escape [58]. Moreover, industrial sector that accounts for one fourth of humanity in this world has 85% of world wealth, whereas 358 wealthy persons in our planet have a fortune equal to the incomes of 2.3 billion people [60]. However, the World Health Organization and establishments that assembled for TB issue under the leadership of the WHO fail to develop a prediction or policy concerning transferred/lost sources or concerning socioeconomic inequality that has worldwide increased in time. In fact, it is known that low body mass index caused by unemployment, low education level and hunger, lack of property of household as the reflection of poverty, and living in a crowded environment as the consequence of low socioeconomic status are the factors that enhance development of TB [61,62].

On the other hand, whilst the researches demonstrated that the risk of having TB disease is enhanced 12.50 times by being in jail, 6.10 times by unemployment, 5.70 times by being in custody, 5.67 times by absence of social insurance, and only 2.94 times by the presence of a family member diagnosed with TB, socioeconomic factors that bring TB into existence have been ignored and "supervision" has been brought into forefront in disease control by means of directly observed treatment programs [63].

It is known that the incidence of TB is hundred times higher in prisons and that TB is the leading cause of death in prisons [64]. Actually, 30% of TB patients that were diagnosed with TB in 2003 in Ukraine were those who were in prisons. Likewise, 40% of deaths in prisons are related to TB [65]. Crowded environment in prisons, inconvenience of detention houses for living and settling, violence acts in prisons, lack of natural light and ventilation in the environment, people's not being protected against weather conditions such

as cold or hot, poor nutrition, inability to access pure drinking water, and inadequate health services are the main reasons for the development of TB in prisons [64]. But it should be kept in mind that prisons shelter humans at 130% of their capacities even in the prisons of Continent Europe, which is more developed in terms of liberal democracy as compared to the other regions of the world. It is known that this ratio reaches up to 228% in Bangladesh and 337% in Kenya [65]. According to the European Committee for the Prevention of Torture, the area per capita is less than $1m^2$ in the jails of Georgia, although each person in a jail needs at least 7 m^2 [65]. The more interesting on this subject is that the number of persons imprisoned is increasing each passing year in today's world, where it is claimed that welfare, wealth and democracy have globally become ubiquitous.

Literature data suggest that incidence of TB is increasing in prisons because the prisoners have delayed and difficult access to treatment, they have suspicion about diagnosis, afraid of the side effects of treatment, and have depression. Nevertheless, people who are imprisoned express that giving a passport that would enable going abroad, creating employment opportunity and informing about disease might solve TB problem [66]. Likewise, people that have been imprisoned for a period of time and then become free also demand information, money and food from the society for the solution of problem [66]. However, opinions and demands in question obtain no response within the body of national or global TB control programs since these demands are not economic. The worse is the fact that, these demands are impossible to be met in a world where it is unlikely to correct unfair distribution of income and sociocultural inequality. Therefore, TB problem is made free from its socioeconomic basis that generates the disease and the issue is totally medicalized. Within this context, it is quite striking that health care workers define the reasons of TB issue, which is encountered in jails and arises directly from the system itself, as the prisoners' inability to perceive the disease because of cognitive limitations, underestimating their complaints, being in the expectation of secondary benefits such as food, additional care and freedom, and poor adherence to treatment due to addiction problems [66].

In brief, TB problem is evaluated -by the health system in general and by health care workers in private- by secluding from its social connections and is individualized by criminalizing. Of course, the issue's turning into an individual problem makes the solution individual as well. When it is given a careful thought, it can be recognized that the main aim of the sanatoriums, which have an important place in the treatment of TB in yesterday's medical practice, is to lock TB patients up in health care units and keep them under observation/treat them. Likewise, it can be realized that directly observed treatment, which is based on the observation and supervision of a health care worker's making a patient to swallow a medicine, embodies the trace of an opinion very similar to the old paradigm. Actually, both approaches discuss the issue on individual basis secluding from its social context and the "success" in TB is reduced to the patient's "swallowing" the pills.

Security and Observation Society Strategy

Many physicians and scientists working in the medical field discuss the way of perceiving problems in health field and the way of solutions offered for these problems as a pure "medical" issue by secluding it from the point of civilization. However, medical paradigm has never been a "medical" issue independent from the thought system of the civilization, but contrarily has taken a role that reproduces and legitimates the current paradigm of civilization. Within this context, TB, in fact, is an issue which clearly reflects the role taken by the medical paradigm.

As is known, people have been tried to be disciplined using fear, supervision and norms for long years all over the world. However, fear, supervision and norm mechanisms, which are the dominant characteristics of discipline society, have failed to control individuals and populations as was intended and history of civilization changed its course to the "democratic" administrative instruments. The striking effect of this change is the inclusion of governance concept in the daily lives of societies. The reflection of civilization strategy on TB issue, which has turned in time into security and observation from discipline, has been the transformation into direct observation of TB patients from killing, blaming or locking them up.

In accordance with the "progressive" perspective of civilization history, determinative organizations of social life are the "concentration camps", which range from penitentiary to prison and present themselves in different forms. As is known, all "concentration camps" separate offenders, drinkers, idlers, grabbers…, i.e. the groups defined by society as "others", from the society and take these groups under supervision. That is to say, sanatorium system is the equivalent of this "separation" and "taking under supervision" mentality in TB field.

On the other hand, the society has been transformed in time into countable and classifiable objects according to normality in line with "population" variables with the contribution of both "concentration camps" and epidemiological science. This transformation has carried the individual to a status that can produce surplus value at maximum level by training the body and soul of the individuals. However, social life itself has lost "spontaneity" and even time has been divided into minutes, and daily life, place and even a usual day have been classified in detail. According to Michel Foucault, the basic aim of this intervention is "to create a recovered and conscientious worker body that complies with production time and gives the necessary force properly" [67]. However, it should be kept in mind that *Panopticon*, which is an observation and lock up corporation, settles in the social helix by embodying not only offenders, but also idlers, insane persons, abandoned children, orphans, students, those with sexually transmitted disease, extremely poor people, homosexuals, prostitutes and workers. Therefore, it is possible to define the current civilization -as it extremely presented itself on TB issue- as a kind of "security and supervision civilization" [64].

On the other hand, this "security and supervision civilization" is valid not only for penitentiaries, prisons or sanatoriums; but

contrarily, all individuals have been made paid workers by being locked up in various sections such as schools, hospitals, factories, and houses. Capitalism that shapes the civilization has taken each individual under observation in the name of working hours, course hours and shift hours and locked everyone up in the cycle of working, producing surplus value, and consuming for the maintenance of the system. Foucault defines this modern *Panopticon* with the following sentences: "Panopticon is a circle-shaped construction with a courtyard in the middle and a tower in the middle of the courtyard. The circle has been divided into cubicles facing both inwards and outwards. Each of these cubicles include -in line with the goal of the institution- a child that is learning writing, a worker that is working, a prisoner that is being disciplined, and an insane person that is living madness. Panopticon is in fact a utopia of a species of society and power; these are the utopias that actually have come true" [68].

Transformation of civilization into security population, in which governance mechanism is dominantly being performed, from discipline population, in which force such as guillotine, execution and beating have been performed, has a "better" result than taking the individual. Actually, wisdom has been blessed with the predominance of managerial logic in time, this blessing has paved the way for the power of knowledge, and has made the specialization authorities -health field ranking first- the unique announcers of truth by the courtesy of this power. No doubt, specialization authorities have determined the "norm" by defining normality curve for each situation owing to their knowledge on epidemiology. According to Gambetti, therefore, "the norm has transformed to an average, that enables the maintenance of the system" [69].

Specialists, which gained extraordinary importance and status in time, have strengthened their social legitimacy on the basis of "norm" owing to the power brought by being considered as authority, and those staying out of the calculated "curve of normal" -for example TB patients- have been marked and labelled by the society. No doubt, the only option of individuals in such a civilization has been adapting themselves without any objection to these norms defined by the power of knowledge, which is claimed to be "objective" and "universal", in order not to become abnormal by not behaving in line with the norms. However, an individual's "developing" him/herself according to these specified norms via self-control with his/her own "freewill" in such an environment has enabled a change that discipline society could not achieve, i.e. capture of an individual without using an enforcement instrument. Therefore, all problems -for example TB- have been defined by being secluded from socioeconomic and sociocultural connections and by being persistently reduced to biochemical paradigm despite all counterproofs in order for the specialists to maintain their power within this civilization [64].

Finally, it can be easily recognized that this state of being corrected, which is based on self-control mechanisms and reduces the biological characteristics of human species to the article of politics thereby the power by means of biopower, came together with the criticism directed by neoliberal economy to the state apparatus and blessed its freedom utopia. Within this context, Zeynep Gambetti expresses that whereas absolute price control is the economic correspondence of the power style that includes classical hegemony paradigm, free market is the financial perception of the security society [70]. Within this context, since security paradigm is aware of the fact that power could not take everything, it leaves the process to its own flow. For this reason, instant-changing risks have been the mechanism that determines who will die or survive in the population of the third millennium [70]. This point of view of neoliberalism, unfortunately, has been effective on TB issue and the problem has been brought into the agenda of public opinion as a "personal issue" including the factors that enhance risk of TB and precautions that the individual would take against these risks. On the other hand, TB issue has been brought into the world's agenda under the title of "dangers" for a long time. This argument of risk and danger, which is also fed by TB's being a contagious disease, has been worldwide reciprocated within the context of resistance problem in particular. Indeed, this argument of danger in TB that is gradually increasing each passing day is consistent with the main paradigm of current era. As can be easily assumed, the shortest way for a capital to achieve maximization of benefit in a "security society" is selling security instruments or precautions to everyone by popularizing the argument of insecurity (=danger). The argument of the facts that everywhere is full of threats, a burglar can break in the house of anyone at any time, anyone could suddenly be the victim of a pick-pocketing, or lose kidneys to organ mafia has been this time reproduced within the context of TB: note that, this contagious disease can anytime contaminate you and may kill you due to the increasing resistance! [64]. As a reflection of this point of view, resistance problem in TB, technological developments that could be used in the early diagnosis of resistant cases and promising new drugs and/or vaccines in the treatment of disease have taken more than enough place in the recent report of the World Health Organization, although sociocultural and socioeconomic basis, which brought TB into existence, has not been included (1)

CONCLUSION

It is known that the age of *Mycobacterium TB* is 300 million years and it causes infection in human since 3000 B.C. [71]. However, despite this old history, consideration of TB as an infectious disease is relatively new: in 1882, Robert Koch, MD demonstrated bacillus in the pulmonary lesions of a patient, who died of TB, and cultured the bacilli in culture and proved the agent of disease by creating TB in experimental animals using the bacilli [71]. Predominantly biomedical view has been effective in the treatment of disease until today from the time the agent was definitely demonstrated, and vaccine, drug, isolation, sanatorium and observation implementations have been usually in the agenda for TB.

Rudolf Virchow is a physician lived between 1821 and 1902. He was deemed worthy of the appellations as "Father of Pathology", "Father of German Medicine" and "Father of Public Health" because of his researches in the fields of pathology, public health, anthropology and politics. The point that makes Virchow important in terms of TB is the report he

wrote on the typhus outbreak encountered during 1847-1848 winter in Upper Silesia, which was economically in poor status. In the report, Virchow holistically approached to the typhus outbreak and, by force of this approach, defined short- and long-term precautions that consider the geographical characteristic of the region, climate, land forms, industry and agriculture relationships, dominant and cultural characteristics of the society, political and administrative structure, effects of church, tax system, social stratification, sheltering conditions, education status, nutritional habits, and traditional medical practices [72]. Short-term precautions that Virchow recommended for the prevention of outbreaks include -as is seen in TB control programs- establishment of notification/warning system and organization of medical care. However, Virchow -different from TB control programs- included also establishment of common committees between professionals, community and representatives of administrative structure and providing food for poor people among short-term goals in preventing outbreaks. On the other hand, according to Virchow, prevention of outbreak in the long-term is possible only by bringing complete and unlimited democracy into existence, shaping a democratic government, improvement of self-management and local government, giving right to cost-free education in native language for everyone, absolute separation of state and church, taking tax burden from poor people and transferring it to rich, putting land reform into practice, developing industry, constructing roads, creating food warehouses, and encouraging of becoming a cooperative [72].

Reviewing national and global TB control programs, it can be seen that none of these programs include recommendations similar particularly to the long-term recommendations of Virchow. In fact, as was quite accurately defined by Virchow, *Mycobacterium TB* does not cause disease in everyone. That is to say, *Mycobacterium TB* provides necessary conditions, but not the adequate conditions for TB disease. Therefore, it is not possible to be successful in TB outbreaks if TB control programs, as is today, focus only on treatment of *Mycobacterium TB*, which is the necessary condition only. Because, it is mandatory to prepare control programs from the point of biopsychosocial view, to discuss global, regional, national and local production and distribution relationships within the context of TB, and to completely discontinue discriminative behaviours of particularly health care workers against TB patients in order to exclude TB from being a public health issue. At this point, the terms social justice, equality, cooperation and common well-being, which are among main ethical principles recommended by the World Health Organization to be followed, are actually of special value [6]. However, it must be realized that, defining such terms has no meaning for change without ethically criticizing a civilization, in which capitalism has been evolved into a life style in the form of neoliberalism, everyone is trying to pass/defeat the others, each value has changed into a meta that could be bought-sold, and brutal competition has been considered as the unique value.

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